IN THE CLAIMS

1. (CURRENTLY AMENDED) A method for producing one or more biocatalysts or a combinatorial array of biocatalysts comprising the step of:

a) providing a host cell;

b) recombining at least two biotransformation genes encoding proteins for modifying a chemical substrate into the host cell;

c) thereby producing at least one recombinant strain comprising a biocatalyst ~~biocatalysts~~.

2. (ORIGINAL) The method according to claim 1 wherein said at least two biotransformation genes introduce two different chemical functional groups, at least one of the at least two chemical functional groups selected from the group selected from carbon to carbon bonds, hydroxylation, halogenation, cycloaddition, and amination.

3. (ORIGINAL) The method according to claim 1 wherein said biotransformation genes modify functional groups according to reactions selected from the group selected of

i. reduction;
ii. oxidation;
iii. hydrolysis;
iv. replacement;
v. ring cyclization;
vi. isomerization;
vii. epimerization; and
viii. dealkylation.

4. (ORIGINAL) The method according to claim 3 wherein the reactions are selected from the group consisting of:

i. reduction of carboxylic acids, aldehydes, and ketones;
ii. oxidation of alcohols, sulfites, amino groups, and thiols;
iii. hydrolysis of nitriles;

iv. replacement of amino groups with hydroxyl groups;

5. (ORIGINAL) The method according to claim 1 wherein said biotransformation genes provide functional group addition of groups capable of providing catalysis for processes selected from the group consisting of acylation, glycosylation, amidation, phosphorylation, and alkyl transfer.

6. (ORIGINAL) The method according to claim 1 wherein said biotransformation genes are derived from whole cells endowed with biotransformation ability as a result of genetic recombination and *in vivo* expression from one or both of constitutive promoter(s) and inducible promoter(s) to create whole-cell biocatalysts.

7. (ORIGINAL) The method according to claim 2 wherein said biotransformation genes are derived from whole cells endowed with biotransformation ability as a result of genetic recombination and *in vivo* expression from one or both of constitutive promoter(s) and inducible promoter(s) to create whole-cell biocatalysts.

A1 cont'd

8. (ORIGINAL) The method according to claim 3 wherein said biotransformation genes are derived from whole cells endowed with biotransformation ability as a result of genetic recombination and *in vivo* expression from one or both of constitutive promoter(s) and inducible promoter(s) to create whole-cell biocatalysts.

9. (ORIGINAL) The method according to claim 4 wherein said biotransformation genes are derived from whole cells endowed with biotransformation ability as a result of genetic recombination and *in vivo* expression from one or both of constitutive promoter(s) and inducible promoter(s) to create whole-cell biocatalysts.

10. (CANCELLED)

11. (CANCELLED)

12. (CANCELLED)

13. (CANCELLED)

14. (CANCELLED)

15. (CANCELLED)

16. (CANCELLED)

17. (CURRENTLY AMENDED) A method for producing a combinatorial array of biocatalysts comprising the steps of:

a) providing a host cell;

b) recombining one biotransformation gene encoding protein for modifying a chemical substrate into the host cell;

c) thereby producing at least one recombinant strain comprising a biocatalyst;

d) then inserting the at least one recombinant strain comprising a biocatalyst into at least two sections of an array of biocatalysts.

A' cont'd

18. (ORIGINAL) The method according to claim 17 wherein said at least one biotransformation gene introduces a chemical functional group selected from the group selected from carbon to carbon bonds, hydroxylation, halogenation, cycloaddition, and amination.

19. (NEW) A method for producing one biocatalyst comprising the step of:

a) providing a host cell of *Streptomyces lividans*;

b) recombining at least three biotransformation genes for modifying a chemical substrate into the host cell, the biotransformation genes being gene 1 replacement desVII, gene 2 replacement pikC, and gene 3 replacement desR;

c) thereby producing at least one recombinant strain comprising a biocatalyst providing three different chemical functional groups, at least one of the at least two chemical functional

A1 cont'd

groups being able to modify functional groups according to a hydrolysis reaction one of said three biotransformation genes provide functional group addition of groups capable of providing catalysis for glycosylation, hydroxylation and glucolysation.

ANTECEDENT BASIS FOR THE AMENDMENTS

Antecedent basis for the amendments may be found generally in the specification, and the basis for encoding proteins, for example, may be found on page 11 of the specification as filed.

DIAGRAMATIC DESCRIPTION OF SPECIES EXAMPLE OF CLAIM 19